

WHAT IS CLAIMED IS:

1. A cleaning device comprising:

a scraping up body rotatably supported to a frame;

5 a dustpan portion supported at a rear portion of the scraping  
up body in the frame;

the dustpan portion having a bottom surface portion being in  
contact with a floor surface, a scooping surface portion for guiding dust  
scraped up by the scraping up body, and a dust receiving portion for  
receiving the dust,

10 wherein the dustpan portion is supported so as to vertically  
oscillate independently from the scraping up body with respect to the  
frame, and

wherein the dust receiving portion of the dustpan portion is  
supported so as to be disconnected from the frame.

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2. A cleaning device according to claim 1, wherein one end close to  
the scraping up body in the dustpan portion is supported to the frame  
by an oscillating portion so as to be freely oscillated, another end far  
from the scraping up body is supported by an engaging and  
20 disengaging pin so as to be freely disconnected from the frame, the  
engaging and disengaging pin is set as a center shaft of oscillation of  
the dustpan portion, and the oscillating portion is set as a center shaft  
of disconnection of the dustpan portion.

25 3. A cleaning device comprising:

a scraping up body rotatably supported to a frame; and

a connection in a leading end portion of a handle connected to

the frame,

wherein the connection portion of the handle is connected to the frame so as to be slidable between an upper position with respect to a gravity point position of the frame, and a lower position close to the  
5 scraping up body.

4. A cleaning device comprising:

a first side wall;

a second side wall; and

10 the first side wall and the second side wall being opposed to each other,

wherein a first projection having a long protruding length is provided on the first side wall, a second projection having a short protruding length is provided on the second side wall, a distance a from  
15 the first side wall to a leading end surface of the second projection is made longer than a length L of a roll, a distance b from the second side wall to a leading end surface of the first projection is made shorter than the length L of the roll, and the roll is allowed to be supported by both projections by inserting one end of a hollow portion of the roll into the  
20 first projection and thereafter inserting another end of the hollow portion of the roll into the second projection, and

wherein a control projection is provided in a base portion of the first projection, a distance c from the leading end surface of the second projection to the control projection is made shorter than the length L of  
25 the roll, one end surface of the roll supported by both projections is allowed to be brought into contact with the leading end surface of the control projection in an opposing manner, and a roll supporting

apparatus capable of preventing the roll from dropping out from both projections.

5. A cleaning device comprising:

5 a scraping up body rotatably supported to a frame; and  
a dustpan portion supported at a rear portion of the scraping  
up body in the frame,

wherein the scraping up body is constituted by a brush which is  
in slidable contact with a scooping surface portion of the dustpan  
10 portion so as to scrape up dust, and

wherein a plurality of grooves extending along a scraping up  
direction of the scraping up body are provided on the scooping surface  
portion of the dustpan portion.

15 6. A cleaning device according to claim 5, wherein an edge close to  
a floor surface in the scooping surface portion of the dustpan portion is  
provided with a concavo-convex tooth surface extending along a width  
direction of the edge.

20 7. A cleaning device comprising:

a scraping up body;  
a contact rotating body;

the scraping up body and the contact rotating body being  
rotatably supported to a frame in parallel; and

25 an adhesive roll rotatably arranged on the scraping up body  
and the contact rotating body in parallel,

wherein the scraping up body is constituted by a brush formed

by mixing fiber members having different bending elastic properties.

8. A cleaning device according to claim 7, wherein the fiber members are constituted of a thick fiber member and a thin fiber member.

9. A cleaning device according to claim 7 or 8, wherein the fiber members are constituted of pig bristles.

10. A cleaning device comprising:  
a scraping up body rotatably supported to a frame; and  
a dustpan portion supported at a rear portion of the scraping up body on the frame;  
wherein the dustpan portion is supported so as to vertically oscillate independently from the scraping up body with respect to the frame, and  
wherein guide shoes warping up with respect to a floor surface are provided in both ends of a front edge of the dustpan portion.

11. A cleaning device comprising:  
a scraping up body;  
a rotating body for rotating an adhesive roll;  
the scraping up body and the rotating body being rotatably supported to a frame in parallel; and  
an adhesive roll rotatably arranged on the scraping up body and the rotating body in parallel,  
wherein the rotating body is constituted by a supporting shaft,

and a rotating element which is fixed to a plurality of positions of the supporting shaft so as to be in contact with the adhesive roll, and

the supporting shaft of the rotating body is separated from the adhesive roll in a portion at which the rotating element is not fixed.

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12. A cleaning device according to claim 11, wherein a dustpan portion is supported at a rear portion of the scraping up body on the frame, and the dustpan portion is extended to a forward and rearward extending range at a lower side of the rotating element of the rotating

10 body, and

wherein the supporting shaft of the rotating body is separated from the dustpan portion at the portion to which the rotating element is not fixed.

15 13. A cleaning device according to claim 11 or 12, wherein the rotating body is provided with an annular ring made of a low adhesive material in an outer periphery of the rotating element.

14. A cleaning device comprising:

20 a scraping up body and a dust picking means supported to a frame;

a tire by which the scraping up body rolls on a floor surface; and

25 a scraping up member which is capable of rotatably interlocking with a rotation of the tire, and scraping up dust from the floor surface to a side of the dust picking means,

wherein a speed increasing means for speeding up the rotation

of the tire so as to transfer to the scraping up member is provided, and when viewing in an axial direction of the tire, a connection portion between the speed increasing means and the scraping up member is provided within a projection surface of the tire.

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15. A cleaning device comprising:

a scraping up body and a dust picking means supported to a frame;

a tire by which the scraping up body rolls on a floor surface;

10 and

a scraping up member which is capable of rotatably interlocking with a rotation of the tire, and scraping up dust from the floor surface to a side of the dust picking means,

wherein a speed increasing means for speeding up the rotation  
15 of the tire so as to transfer to the scraping up member is provided, and a rotational direction of the scraping up member is set to the same direction as a rotational direction of the tire.

16. A cleaning device according to claim 14 or 15, wherein the  
20 speed increasing means is a planetary gear train constituted by a sun gear which is provided in a rotation center of the scraping up member, a planetary gear which is pivoted to the tire so as to be engaged with the sun gear, and revolves around the sun gear, and an internal gear which is fixed to a side of the frame and engaged with the planetary  
25 gear.

17. A cleaning device according to claim 14 or 15, wherein the

speed increasing means is a gear train constituted by an engagement between a large-diameter internal gear which is provided around a rotation center of the tire, and a small-diameter external gear which is provided around a rotation center of the scraping up member.

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18. A tire having the speed increasing means according to claim 16 or 17 built-in.

19. A cleaning device comprising:

10 a scraping up body and an adhesive roll supported to a frame in parallel; and

the adhesive roll picking up dust from a floor surface scraped up by the scraping up body,

wherein the cleaning device has a roll driving means for  
15 rotating the adhesive roll in an opposite direction to a rotational direction of the scraping up body,

wherein the roll driving means is constituted by a rotating body which rolls on the floor surface while being supported to the frame, and rotates the adhesive roll based on the rotation,

20 wherein the rotating body has a tire rolling on the floor surface, and a rotating element rotating the adhesive roll interlocking with the rotation of the tire, and

wherein a speed increasing means for speeding up the rotation of the tire so as to transmit to the rotating element is provided.

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20. A cleaning device according to claim 19, wherein the speed increasing means is a planetary gear train constituted by a sun gear

which is provided in a rotation center of the rotating element, a planetary gear which is pivoted to the tire so as to be engaged with the sun gear, and revolves around the sun gear, and an internal gear which is fixed to a side of the frame and engaged with the planetary gear.

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21. A cleaning device according to claim 19, wherein the speed increasing means is a gear train constituted by an engagement between a large gear which is provided around a rotation center of the tire, and a small gear which is provided around a rotation center of the  
10 rotating element.

22. A tire having the speed increasing means according to claim 19 built-in.

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